

## 13.0 STAFFING

This section summarizes the staffing requirements for management, operation, and maintenance of the facility. Staffing requirements for the facility were estimated and are presented in Table 13-1. These estimates are based on continuous operation of the facility and adjusted for facility-specific factors. Intermittent operation of the facility will reduce staffing requirements, but not at a rate directly proportional to operating time. County-specific factors (productivity of labor, training, management ability, etc.) have not been incorporated in the estimate and, therefore, actual staffing requirements may vary from the estimated values.

As shown in Table 13-1, inclusion of facility-specific factors in the staffing evaluation tended to decrease the estimated staffing requirements as compared to an "average" facility. The facility is considered average for the following items: level of treatment, constant operation, productivity of labor, training, and relatively new equipment, and present flow near design flow. The facility will require greater than average staffing because of the following items: plant layout (extended over large area due to 10 well heads); type of waste removal requirement (effluent standard rather than removal efficiency requirement); climate (slightly extreme winters); automatic monitoring (none for contaminants of concern); and automatic sampling (none for contaminants of concern). The facility will require less than average staffing because of the following items: unit processes (essentially only one process), laboratory work (off-site for most analyses) and off-plant maintenance (contract maintenance for corrective action only).

**TABLE 13-1**  
**STAFFING ASSESSMENT FOR FACILITY**

Local Condition	Management	Operations	Maintenance	Laboratory	Clerical
Average Staffing <sup>(a)</sup>	1.0	4.0	1.0	1.0	1.0
Plant Layout	-	+10%	+10%	-	-
Unit Processes	-40%	-40%	-40%	-40%	-40%
Level of Treatment	-	-	-	-	-
Type of Removal Requirement	-	+5%	-	+10%	-
Productivity of Labor	-	-	-	-	-
Climate	-	-	+5%	-	-
Training	-	-	-	-	-
Automatic Monitoring	-	-5%	+5%	-	-
Automatic Sampling	-	+5%	-	+5%	-
Off-Plant Laboratory Work	-	-	-	-60%	-
Off-Plant Maintenance Work	-	-	-25%	-	-
Age and Condition of Equipment	-	-	-	-	-
Pattern of Staffing	-	-50%	-	-	-
Total % Change	-40%	-75%	-45%	-85%	-40%
Staffing Required	0.4	1.0	0.5	0.1	0.4

- (a) Based on a survey of 14 wastewater treatment plants, total staffing is related to facility capacity by:

$$\text{Staffing} = 1.66 \times \text{Plant Design Flow (MGD)} + 5.6$$

$$\text{Plant Design Flow} = 1,000 \text{ gpm} \times 60 \text{ min/hr} \times 24 \text{ hr/day} \times 10^{-6} = 1.44 \text{ MGD}$$

$$\text{Therefore, staffing} = 1.66 \times 1.44 + 5.6 = 8.$$